

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | |
|---------------------------------|---|--------------------------------------|
| In re Patent Application of |) | Attorney Docket No.: MIKI0004 |
| |) | |
| Keiichiro OISHI |) | Confirmation No.: 1327 |
| |) | |
| Serial No.: 10/596,849 |) | Group Art Unit: 1793 |
| |) | |
| Filed: June 27, 2006 |) | Examiner: Sikyin IP |
| |) | |
| For: COPPER-BASED ALLOY CASTING |) | Date: January 15, 2010 |
| IN WHICH GRAINS ARE REFINED |) | |

INFORMATION DISCLOSURE STATEMENT

MAIL STOP: Amendment

United States Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. §1.56, this Information Disclosure Statement in connection with the above-identified application is being filed in accordance with 37 C.F.R. §1.97(c).

The documents identified on Form PTO/SB/08A are explained in detail below. Their relevance is believed to be clear and, accordingly, no further comment regarding the disclosures of these documents is believed to be required.

1. WINFRIED REIF, Kornfeinung von Aluminium-, Biel-, Zinn-, Kupfer-, und Nickellegierungen-ein Überblick, Giesserei 76, 1989, Nr. 2, pages 41-47:

This document relates to grain refinement of sand casting and its properties. Grains are refined when 0.06% of Zr is added to CuSn10Zn, CuPb10Sn or CuSn5ZnPb alloys. Mg is also effective for grain refinement. Density is increased for the aforesaid grain-refined

alloys. Tensile strength is enhanced for the aforesaid grain-refined alloys, but elongation is deteriorated. This document is directed to different alloys from those of the present invention, but is relevant to the present invention only in the fact that the grain refinement is achieved by an element Zr, which is also a constituent of the alloys according to the present invention, although the amount of which falls outside of the present invention.

2. A. COUTURE, J. O. EDWARDS, Kornfeinung von Kupfer-Sandgußlegierungen und ihr Einfluß auf die Güteeigenschaften, Giesserei-Praxis, Nr. 21/1974, pages 425-435:

This document relates to grain refinement of aluminum alloys, lead alloys, copper alloys and nickel alloys. For example, grains are refined when 0.04% of Zr, and 0.02% of Mg, Fe or P is added to CuZn40, CuSn, CuSn8Zn5Pb5 or CuPb22Sn3 alloys. Zr, ZrB or ZrFe also refines the grains of CuSn alloy. However, there is no information about to what extent the grains can be refined. This document is relevant to the present invention in containing Zr as a constituent, and in the fact that grains are refined for different types of copper alloys than the present invention by 0.04% of Zr, which is the upper limit of Zr of the present invention.

3. M. SAHOO, An overview of ICA-Funded Research and Development at MTL/Canmet, pages 1-12:

This document relates to permanent-mold casting and grain refinement of copper-based alloy, e.g., yellow brass. Its detailed relevancy is discussed throughout the entire disclosure of this document.

4. JP 38-20467:

JP 38-20467 relates to a copper-based alloy on which solution heat treatment and 75% cold-working are performed in order to examine mean grain size. Its detailed relevancy is discussed on p. 2, paragraph [0008] of Applicant's disclosure as originally filed.

It is respectfully requested that the attached documents be considered and officially cited, and that the Examiner initial a copy of Form PTO/SB/08A, and return it to the undersigned to indicate that the documents have been considered.

The requisite fee of \$180.00 is attached herewith. It is believed that the present Information Disclosure Statement complies with the requirements of 37 C.F.R. § 1.97-8, but the Director is hereby authorized to charge any additional fees to Deposit Account No. 50-1281.

Respectfully submitted,
GRIFFIN & SZIPL, PC



Joerg-Uwe Szimpl
Registration No. 31,799

GRIFFIN & SZIPL, PC
Suite PH-1
2300 Ninth Street, South
Arlington, VA 22204

Telephone: (703) 979-5700
Facsimile: (703) 979-7429
Email: gands@szipl.com
Customer No.: 24203